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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,791	03/15/2004	Young C. Yoon	4740-256	9207

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EXAMINER

AFSHAR, KAMRAN

ART UNIT PAPER NUMBER

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/800,791

Applicant(s)

YOON ET AL.

Examiner

Kamran Afshar, 571-272-7796

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/6/04, 11/8/04 & 8/29/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17 and 31 recite word(s) "operatively " renders the claim(s) indefinite because the claim(s) 1,11 and 16 are not clear as to what are positively claimed.

Claims 18-30 and 32-42 are rejected as they are directly and or indirectly depended on rejected claim(s).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 16-19, 31-33, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (U.S. Pub. No.: 2003/0130002 A1).

With respect to claim 1, Chen discloses a method of controlling the data transmission rate (See e.g. Page 6, Lines 1-4 of ¶ [0054], Fig. 6) of a mobile station in a wireless communication network (See e.g. 100 of Fig. 1, Page 3, ¶ [0036], 106, 104 of Fig. 2, Page 4, Lines 1-8 of ¶ [0044]) comprising:

Art Unit: 2617

providing a forward common power control channel for power controlling a plurality of mobile stations (See e.g. Forward common power (FCPCCH), Power control groups (PCGs), Page 5, Lines 1-12 of ¶ [0047], 106a-106e of Fig. 1, 106 of Fig. 2), the forward common power control channel being divided into a plurality of frames (see e.g. 1.25 ms frames of Figs 3-7), with each frame including a plurality of power control groups and each power control group including a plurality of power control slots (See e.g. power control , channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]); transmitting the rate control information (See e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate=1/4 of Figs. 5-7) to one or more mobile stations on selected power control slots (See e.g. Page 5, Lines 1-12 of ¶ [0047]) on the forward common power control channel (See e.g. PCG1-PCG4, ¼ gating, Slots 0-16, Page 8, Lines 1-16 of ¶ [0066]).

Regarding claims 2, 18, 32, Chen discloses the selected power control slots occur at the same slot position in at least two power groups (See e.g. power control commands can be sent with predetermined timing, Page 7 – Page 8, Lines 1-12 of ¶ [0065] & times-slots 0-15 of Figs. 3-7).

Regarding claims 3, 19, 33, Chen discloses the selected power control slots occur at different positions in at least two power control groups (See e.g. power control commands can be sent with predetermined timing, Page 7 – Page 8, Lines 1-12 of ¶ [0065] & times-slots 0-15 of Figs. 3-7).

Regarding claim 4, Chen discloses selecting one or more power control slots on the forward common power control channel (See e.g. Forward common power (FCPCCH), Power control groups (PCGs), 106a-106e of Fig. 1, 106 of Fig. 2) for transmitting the rate control information (See e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate=1/4 of Figs. 5-7).

Regarding claim 16, Chen discloses the selected slots are within a single PCG in each frame (See e.g. PCG1-PCG4, over time-slots 0-15 of Fig. 6).

With respect to claim 17, Chen discloses a radio base station (See e.g. 104a-104b of Fig. 1, 104 of Fig. 2) in a wireless communication network (See e.g. 100 of Fig. 1, Page 3, ¶ [0036], 106, 104 of Fig. 2, Page 4, Lines 1-8 of ¶ [0044]) comprising: a receiver (See e.g. Rcv 202 of Fig. 2) to receive signals from one or more mobile stations (See e.g. 106a-106e of Fig. 1, 106 of Fig. 2) at variable data

Art Unit: 2617

transmission rates (See e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7); a transmitter (See e.g. Tx 208 of Fig. 2) to transmit rate control information to the one or more mobile stations to control the data transmission rates of the mobile stations in selected power control slots (See e.g. Page 5, Lines 1-12 of ¶ [0047]) on a forward common power control channel (See e.g. PCG1-PCG4, ¼ gating, Slots 0-16, Page 8, Lines 1-16 of ¶ [0066]), the forward power control channel being (See e.g. Forward common power (FCPCCH), Power control groups (PCGs), 106a-106e of Fig. 1, 106 of Fig. 2) divided into a plurality of frames with each frame having a plurality of power control groups and each power control group having a plurality of power control slots (See e.g. PCG1-PCG4, over time-slots 0-15 of Fig. 6); and a controller (See e.g. 102 of Fig. 1, 210 of Fig. 20) operatively connected to the transmitter and the receiver to determine what rate control information to transmit (See e.g. 104a-104b of Fig. 1, 208, 202 of Fig. 2).

With respect to claim 31, Chen discloses a mobile station (See e.g. 106a-106e of Fig. 1, 106 of Fig. 2) in a wireless communication network (See e.g. 100 of Fig. 1, Page 3, ¶ [0036], 106, 104 of Fig. 2, Page 4, Lines 1-8 of ¶ [0044]) comprising: a transmitter (See e.g. 208, 204 of Fig. 2) to transmit signals at variable data transmission rates (See e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7); a receiver (See e.g. 206, 202 of Fig. 2) to receive rate control information from a radio base station in selected power control slots (See e.g. Page 5, Lines 1-12 of ¶ [0047]) on a forward common power control channel, the forward power control channel (See e.g. PCG1-PCG4, ¼ gating, Slots 0-16, Page 8, Lines 1-16 of ¶ [0066]) being divided into a plurality of frames with each frame having a plurality of power control groups (See e.g. Forward common power (FCPCCH), Power control groups (PCGs), 106a-106e of Fig. 1, 106 of Fig. 2) and each power control group having a plurality of power control slots; and a controller (See e.g. 102 of Fig. 1, 210 of Fig. 20) operatively connected to the transmitter and the receiver to vary the data transmission rate of the transmitter responsive to the rate control information (See e.g. 104a-104b of Fig. 1, 208, 202 of Fig. 2).

Regarding claim 42, Chen discloses the controller is programmed to respond to power control bits in a designated slot in a power control group (See e.g. Forward common power (FCPCCH), Power control groups (PCGs), and wherein the controller (See e.g. 102 of Fig. 1, 210 of Fig. 20) is programmed

Art Unit: 2617

to ignore the designated slots for power control purposes when the designated slot is used for sending rate control information (See e.g. 805 of Fig. 8, 905 of Fig. 9, 1005 of Fig. 10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-15, 20-27, and 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (U.S. Pub. No.: 2003/0130002 A1) in view of Zhang (U.S. PUB. No.: 2004/0013103 A1).

Regarding claims 5, 20, Chen discloses everything as discussed above in rejected claim 1.

However, Chen does not explicitly disclose that selecting one or more power control slots on the forward common power control channel for transmitting the rate control information comprises dynamically selecting power control slots responsive to changes in the number of mobile stations being controlled. In an analogous field of endeavor, Zhang discloses selecting one or more power control slots (See e.g. full rate, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, time-slots, Page 3, ¶ [0034]) on the forward common power control channel for transmitting the rate control information comprises dynamically selecting power control slots responsive to changes in the number of mobile stations being controlled (See e.g. dynamically, power control, F-CPCCH, time-slots, MSs, active users, Page 4, [0045], ¶ [0047]-[0048]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide above teaching of Zhang to Chen providing a dynamic sharing of system resources (i.e. F-CPCCH, F-DCCH, FDPCH, etc.) among active users (increase / decrease in number of terminal in real time) so that more active users are supported without requiring additional system resources and resulting in forward link throughput for the system as suggested by Zhang (See e.g. Pages 1-2, Lines 9-13 of ¶ [0012]).

Regarding claims 6, 21, it is obvious that transmitting the rate control information to one or more mobile stations on selected power control slots on the forward common power control channel comprises transmitting common rate control bits to two or more mobile stations in selected power control slots designated for common rate control (See Chen e.g. Page 5, power control bits transmitted, power control groups, common forward power control, etc., Lines 1-12 of ¶ [0047]).

Regarding claims 7, 22, 35, it is obvious that transmitting the rate control information to one or more mobile stations on selected power control slots on the forward common power control channel comprises transmitting dedicated rate control bits (See Chen e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7) to one or more selected mobile stations in respective power control slots (See Chen e.g. power control, channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]) for each mobile station (See Chen e.g. Page 5, power control bits transmitted, power control groups, common forward power control, power control bits, etc., Lines 1-12 of ¶ [0047]).

Regarding claims 8, 23, it is obvious that transmitting dedicated rate control bits (See Chen e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7) to one or more selected mobile stations in respective power control slots (See Chen e.g. power control, channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]) for each mobile station comprises transmitting the dedicated rate control bits for different mobile stations in different power control slots (See Chen e.g. Page 5, power control bits transmitted, power control groups, common forward power control, power control bits, etc., Lines 1-12 of ¶ [0047], Zhang, Page 4, Lines 6-12 of [0044]).

Regarding claim 9, it is obvious that transmitting the rate control information (See Chen e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7) to one or more mobile stations on selected power control slots on the forward common power (See Chen e.g. power control, channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]) control channel further comprises transmitting common rate control bits to two or more mobile stations in selected power control slots designated for common power control (See Chen e.g. Page 5, power control bits

Art Unit: 2617

transmitted, power control groups, common forward power control, power control bits, etc., Lines 1-12 of ¶ [0047], Zhang, Page 4, Lines 6-12 of [0044]).

Regarding claim 10, it is obvious that transmitting the rate control information (See Chen e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7) to one or more mobile stations on selected power control slots (See Chen e.g. power control, channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]) on the forward common power control channel comprises transmitting rate control bits in the selected power control slots (See Chen e.g. Page 5, power control bits transmitted, power control groups, common forward power control, power control bits, etc., Lines 1-12 of ¶ [0047], Zhang, Page 4, Lines 6-12 of [0044]).

Regarding claim 11, it is obvious that transmitting the rate control information to one or more mobile stations on selected power control slots on the forward common power control channel (See Chen e.g. Page 5, power control bits transmitted, power control groups, common forward power control, power control bits, etc., Lines 1-12 of ¶ [0047]) further comprises repeating the rate control bits (See Chen e.g. 800 bps, gating rate = 1 of Fig. 3, 400 bps, gating rate = 1/2 of Fig. 4, 200 bps, gating rate = 1/4 of Figs. 5-7) in different power control slots (See Chen e.g. power control, channels, time-slots, frequencies, etc., Page 4, Lines 1-8 of ¶ [0044]).

Regarding claim 12, it is obvious that transmitting a common power control assignment to the mobile stations that identifies the selected power control slots (See Chen e.g. Page 7 – Page 8, Lines 1-12 of ¶ [0065] & times-slots 0-15 of Figs. 3-7).

Regarding claims 13, 28, 39 it is obvious that transmitting a common power control assignment to the mobile stations that identifies the selected power control slots (See Chen e.g. Page 7 – Page 8, Lines 1-12 of ¶ [0065] & times-slots 0-15 of Figs. 3-7) comprises transmitting the common power control assignment to the mobile stations at call setup (See Chen, e.g. call initiation, power control initiation transmission, Page 5, ¶ [0050]).

Regarding claims 14, 29, 40, it is obvious that transmitting a common power control assignment to the mobile stations that identifies the selected power control slots comprises transmitting the common

Art Unit: 2617

power control assignment to the mobile station responsive to a handoff (See Chen e.g. Page 3, Lines 6-10 of ¶ [0036], Zhang, Page 4, Lines 6-12 of [0044]).

Regarding claims 15, 30, 41, it is obvious that transmitting a common power control assignment to the mobile stations that identifies the selected power control slots comprises transmitting the common power control assignment a plurality of mobile stations over a common broadcast channel (See Chen, e.g. certain channel, common control channel, common forward control channel, etc., Page 3, ¶ [0035]).

Regarding claims 24, 34, it is obvious that the rate control information comprises common rate control bits transmitted to two or more mobile stations in a first set of selected power control slots designated for common rate control, and dedicated rate control bits for one or more mobile stations in a second set of selected power control slots (See Zhang e.g. Page 2, ¶ [0025]).

Regarding claims 25, 36, it is obvious that the rate control information (See Zhang e.g. Page 2, ¶ [0025]) comprises rate control bits (See Zhang e.g. Page 5, [0054]).

Regarding claims 26, 37 it is obvious that the rate control bits are repeated in different power control slots (See Zhang e.g. Page 5, [0054], Chen, Figs 3-7).

Regarding claims 27, 38, it is obvious that the controller assigns the mobile stations to selected power control slots for purposes of reverse link rate control and wherein said transmitter transmits a rate control assignment to the mobile stations responsive to the controller that identifies the selected power control slots to be used by the mobile stations for reverse link rate control (See Zhang, e.g. Page 5, ¶ [0060]).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- | | |
|---|--|
| a) Moon (U.S. No.: 2003/0026219 A1). | f) Moon (U.S. 6,831,910 B1). |
| b) Yoon (U.S. Pub. No.: 2004/0258096 A1). | g) Kim (U.S. Pub. No.: 2002/0093918 A1). |
| c) Yoon (U.S. Pub. No.: 2004/0252669 A1). | h) Koo (U.S. Pub. No.: 2003/0117969 A1). |
| e) Bae (U.S. Pub. No.: 2003/0125037 A1). | |

Art Unit: 2617

d) Damjanovic (U.S. Pub. No.: 2003/0050084 A1).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Eng, George** can be reached @ (571) 272-3984. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kamran Afshar


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